

Into the Neuro-Interventional Arena

Notes by a Novice

IX Congress of the World Federation
of Interventional and Therapeutic Neuroradiology

President Prof. LING FENG

Beijing, China, 9-14 September 2007

Trainee doctors attend high profile scientific meetings with curiosity mixed with a sense of responsibility and a touch of pride. Curiosity springs from hearing about new technological breakthroughs and the experiences of colleagues working in settings often very different from their own. A sense of responsibility stems from the duty to add newly acquired knowledge, and a touch of pride simply from attending a lecture given by Yasargil!

The IX Congress of the World Federation of Interventional and Therapeutic Neuroradiology, the leading scientific meeting in its field, was held in Beijing, China, from 9th to 14th September 2007. The meeting, organized with much enthusiasm and efficiency by Prof. Ling Feng, welcomed interventional neuroradiologists from all continents.

The meeting's intense four-day programme touched on all major topics, including the problems and new frontiers facing interventional neuroradiology today. The scientific and teaching value of the many lectures, communications and presentations was outstanding. Of these, I recall first and foremost, Prof. Yasargil's lecture entitled "*Perfection in the management of the cerebral vascular diseases*". For me, this was an opportunity to put a face to a name that for a novice has become something of a myth. Prof. Yasargil's lecture went beyond mere techniques and percentages. He recounted episodes in his life as a doctor and the feelings of a man, one of the founders of modern neurosurgery and a long-standing supporter of interventional neuroradiology. So much work and so much passion in tackling difficulties along the way: this seemed to be his message – it is not every day that one attends a lecture by teacher of his stature.

Prof. Valavanis' (Switzerland) lecture "*Aneurysmal shapes and subarachnoid cisterns*" led us to reflect on the importance of the extravascular micro-anatomy on the morphological behaviour of aneurysms. With his usual clarity, Professor Valavanis illustrated the dynamic relationship between a plastic-elastic element like an aneurysm, and its surrounding environment. We are so used to focusing on the importance of flow kinetics within aneurysms, shear-stress and Reynolds' number that hearing about the role of compartmentalization of the subarachnoid spaces on the shape of aneurysms changes your view of the problem.

From the teaching point of view, the lecture given by Prof. Lasjaunias (France) was particularly valuable. In his usual clear and exhaustive manner, he described a number of interesting clinical cases to outline the embryological and etiopathogenetic mechanisms underlying the metameric cerebrofacial syndrome.

Prof. Carmeliet's (Belgium) lecture on "*Vascular growth factors and neurodegenerative pathologies*" was a clear and well illustrated overview of vasculogenesis and angiogenesis, a topic of broad scientific interest. His lecture focused on the latest research results clarifying the role of vascular endothelial growth factor (VEGF) in the processes of vascular genesis and regeneration. Understanding complex angiogenetic mechanisms and the role of anti-angiogenetic factors paves the way for new cell therapies in the neurovascular field.

"*Endovascular neurosurgery and microsurgery: competition or collaboration?*" The question raised by Prof. Samii's (Germany) lecture is anything but rhetorical. His interesting answer met with a general consensus: healthy competition to reach increasingly higher levels and better results, and cooperation to share experiences for the good of our patients.

In some ways, the lecture by Prof. Goto (Japan) was the most singular. The introspection and questioning of an interventional neuroradiologist in the event of failure or when severe complications arise are things most of us know from first hand experience. Yet they are difficult to discuss and even more difficult to treat in publications. The opening words of his lecture "*Psychological aspects in interventional neuroradiology*" made an immediate impact: "*We are always on the edge of an abyss or walking on thin ice*". With admirable simplicity and clarity, Prof. Goto recounted his professional experience stressing the importance of systematically tackling the topic of mourning in clinical neuroradiological practice. His presentation led us once again to reflect on the doctor's human fragility that no technological advances can erase.

Professor Picard's (France) lecture traced the history of neuroradiology focusing on its milestones and major successes and broaching its future in an elegant lecture entitled "*How to imagine the future of interventional neuroradiology?*" The answer is clear and was shared by all: the future will come about through ongoing updates, a thorough understanding of pathophysio-

logical mechanisms and a command of technology and nanotechnology.

The lecture by Prof. Berenstein (USA) aroused special interest as it dwelt on the role of the endovascular therapy of haemangiomas. This is a niche topic and often shared by other specialties, and is interesting for this very reason. Prof. Berenstein described numerous clinical cases to outline the key aspects of a complex treatment often combining endovascular and percutaneous therapy.

In his lecture entitled "*Classification of cerebral AVMs*", Prof. Beltramello (Italy) put forward a proposal for a new broader classification of cerebral arteriovenous malformations to entertain not only the angioarchitecture of the AVMs, but also their natural history and features specific to individual patients. Describing the experience of his group, Dr Beltramello proposed introducing an Intention to Treat Score to quantify the reasons for treatment, and a Treatment Risk Score to gauge the risks related to the treatment itself.

Prof. Moret's (France) lecture focused on the treatment of complex AVMs and was especially interesting from a technical standpoint. Describing many clinical cases, he demonstrated the efficacy and reliability of Onyx in the embolization of cerebral AVMs.

The first day of the Symposium programme also included a lecture by Dr Ro (Germany) on the ever topical subject of anticoagulation in interventional neuroradiology. Emphasizing the importance of pharmacological knowledge, Dr Ro proposed common guidelines for the routine administration of antiaggregant and anticoagulant drugs. Another interesting lecture was Dr Duckwiler's (USA) presentation on updates in carotid stenting. He confirmed the ongoing diffusion of this procedure which continues to gain ground over traditional thrombendarterectomy because of its greater technical stability.

Other lectures worthy of note for their clarity and visual presentation were made by Dr Battacharya (UK) on "*Dangerous anastomoses in the cranial circulation: anticipation and compensation*" and the lecture by Dr Biondi (France) entitled "*Neurovascular treatment in intracranial truncal aneurysms: Therapeutic considerations in relation to clinical and imaging findings*".

A session particularly memorable for the importance of the topic and its debate was the round table on the management and treatment of stroke. Speakers recounted the experiences of Argentina (Dr Lylik), the USA (Dr Chaloupka), China (Dr Feng), India (Dr Karapurkar), France (Dr Bracard) and Japan (Dr Hyogo). They gave a clear and exhaustive overview of the current situation and the specific management features of a complex condition that has a major social impact involving different specialists working in a far-reaching nationwide network allowing effective communication and interaction in a very short time frame. Experiences differed, but all speakers worked in countries with large high density populations, and confirmed the difficulties involved in management and organization.

The main differences in stroke management in European and Asian healthcare systems were also emphasized later that day by Dr Wong (Hong Kong – China). Dr Houdar (France) completed the picture by clarifying the key aspects of stroke treatment in the first hour. He described the experience of his Centre where mechanical fibrinolysis of the anterior circulation is undertaken up to eight hours after the onset of symptoms and of the posterior circulation even within 12 hours.

Another interesting meeting was the "World Congress of Ozone Therapy Joint Meeting" organized in a friendly climate Dr Kumar (India) called a "family" atmosphere. This meeting offered the opportunity to exchange experiences, confirming once again the clinical validity of the results obtained by oxygen-ozone therapy for degenerative joint disease in general and that of the spine in particular. The many experiences described by the speakers also confirmed the widespread use of this type of treatment in countries like India and China.

Lectures on well-consolidated techniques and the well-known mechanisms of oxygen-ozone effects (Dr Andreula and Dr Bonetti – Italy) were flanked by reports on the results of experimental animal studies (Dr Muto – Italy and Dr. Alagra Lamaignere – Spain). Especially interesting were the cases described by Chinese colleagues on the possibility of treating anal fistulas and inflammation of the intrahepatic bile ducts by injecting an O₂-O₃ gas mixture. Awaiting an in-depth study on the events and mechanisms of remission/cure, these new cases, together with similar series reported in the past, suggest further expansion of the indications for the administration of O₂-O₃.

In conclusion, the IX WFITN Congress was a lively forum for neuroradiologists from all over the world to exchange experiences, a venue for updates on the use of materials, novel techniques and indications and possible common guidelines for interventional and therapeutic neuroradiological practice.

Last but not least, the meeting offered young, newly qualified neuroradiologists and those embarking on their professional careers an opportunity to feel the intellectual weight which brought interventional neuroradiology into being not many decades ago. It was a chance to feel the strength underpinning the discipline today, gain more knowledge of pathophysiology, anatomy, clinical and technical theories and grasp the outstanding value of international cooperation and imagine the future of neuroradiology worldwide. Being at this exciting venue and taking part in the meeting organized so well by Prof. Ling Feng gave young neuroradiologists the chance to try and become "*great doctors always searching for perfection and honesty*".

An ancient Chinese wish to a newborn child says: "May you live in interesting times!" These are certainly interesting times for interventional neuroradiology...

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